schenckprocess

Mechanical Conveying Solutions for the Metals and Minerals Industries

Innovative products for transporting raw materials efficiently with high levels of reliability

we make processes work

Schenck Process Group - Your Partner Worldwide

Acting locally to support your needs the Schenck Process Group is working where you are.

With a global network of sites and competent partners, the name Schenck Process is synonymous throughout the world with process expertise and well-engineered measuring technology for industrial weighing, feeding, conveying, screening, automation and air filtration technology.

Our key skills include planning processes, feeding bulk materials, controlling flows of material, recording flows of goods, weighing goods and automating transport processes.

Members of the Schenck Process Group are:

schenck process · stock · fairfield · clydeprocess · pentec

schenck AccuRate · redler · screenex · mac process

Comprehensive Range of Mechanical Conveying Options

Schenck Process are able to provide a comprehensive range of mechanical conveying options for the Metals and Minerals industries including:

- En-Masse Chain Conveyors
- Belt Conveyors
- Tube Belt Conveyors
- En-Masse Chain Elevators
- Belt Bucket Elevators
- Chain Bucket Elevators

The range of conveyors incorporate Redler® machines that are part of the choice of Schenck Process technologies available.

These machines are designed for the high capacity loads required and with extensive industry experience Schenck Process are able to provide systems and process flows that increase the efficiency of bulk materials handing operations.

The range of mechanical conveying options each have advantages depending upon the materials and the distances that are required to be conveyed.

Schenck Process' expertise can help to select the best solution for the transportation of the following materials in the Metals and Minerals industries:

- Granular Coal / Raw Lump Coal
- Ground Minerals
- Limestone
- Additives
- Granulated Slag
- Alternative Fuels

Heavy Duty Chain Conveyors and Elevators

The range of heavy duty Chain Conveyors and Elevators has been specifically developed to operate reliably in demanding environments without risk to the high operational efficiencies that modern production requires. Designed with ease of inspection and maintenance in mind the range allows prompt and preventative maintenance to be undertaken with the absolute minimum of plant disruption and downtime.

Chain Conveyors and Elevators are suitable for a broad range of applications and can be manufactured to comply with ATEX requirements where necessary.

The range of conveyors incorporates several unique features to ensure consistent performance and durability.

- High Strength Chain with high tensile strength
- Driving end with fully bolted segmented drive sprocket
- Tension end with profiled trailing wheel for positive chain engagement
- Heavy duty and dust tight casing with weatherproof view points
- Optional "Quickview" wear strip sampling points for simple but positive wear monitoring
- Auto grease dispensing to continuously lubricate bearings
- Chain tension system incorporated

MoveMaster® Chain Conveyors

En-Masse Chain Conveyors are offered in various standard sizes from 200mm to 1600mm wide and capable of handling materials from 0.5m^3/Hr to 350 m^3/Hr with maximum material depths up to 500mm. Additional conveyor widths and throughputs are available upon request, dependant on the application. Materials of construction are selected to suit the client's specific needs and material specification.

The range of chain conveyors incorporate high strength chain links and high quality flighted links.

High Strength Chain Links

- Drop forged from alloy steel
- Precision machined
- Case hardened to RC57 min
- High tensile strength
- Consistent dimensional accuracy
- High quality manufacturing procedures

High Quality Flighted Links

- Wide range available
- Designs to suit applications
- T/U/I/H designs
- Scavenger/Pad/Scoop flights
- Variable flight configuration
- High quality manufacturing procedures

MoveMaster® Chain Elevators

En-masse Chain Elevators are available with similar options to the chain conveyor range to enable the design to be adaptable to the specific requirements of the installation. Utilising the well proven principle of en-masse conveying the range of chain elevators is capable of handling the heavy duty loadings required in the Metals industries. Systems can be manufactured to comply with ATEX requirements when necessary.

- Gentle handling of materials
- Construction options similar to that of the chain conveyor
- Elevators adaptable to suit individual applications
- Ideal industrial process selection
- ATEX compliant designs available

MoveMaster® Belt Conveyor

Schenck Process provide belt conveyors that are able to transport a wide variety of materials horizontally or for inclines and declines. The conveyor framework is constructed for high strength loading with integrated cover plates for ease of installation and inspection. Conveyor covers, head, snub and tail assemblies are designed to ensure smooth passage of the material, to improve drive efficiency and facilitate belt tracking.

The belt conveyor range is designed for a wide number of applications that allow for ease of transfer of materials from one conveyor to another. The specification of the belt conveyor depends upon the type of material to be handled and the extensive range of standard designs can also be adapted to special requirements.

Standard belt widths are:

- 650mm
- 800mm
- 1000mm
- 1200mm
- 1400mm
- 1600mm
- 1800mm

MoveMaster® EB Belt Conveyor for Biomass and RDF

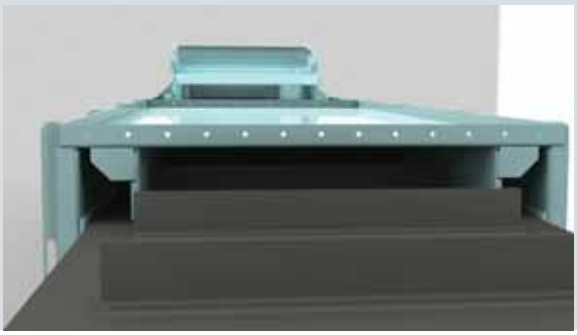
The MoveMaster® EB is a special type of belt conveyor/elevator developed by Schenck Process for the transportation of very light (fluffy) and stringy materials that tend to “nest” using conventional conveyors. These materials include biomass and household and industrial refuse derived fuels (RDF).

The material is transported in chambers created by ribs on the conveyor belt and the solid conveyor enclosure. This type of design creates a dust and spillage free path up to the discharge point. The design of the return branch ensures a self-cleaning function of the conveyor. Spilled material inside the conveyor enclosure is collected and returned to the feed branch of the belt. This ensures a smooth operation and low maintenance requirements.

Enclosing of the whole conveyor in a solid box provides protection to the material conveyed as well as protecting the surrounding area from contamination with the transported product. This feature is a key safety and environmental requirement while transporting refuse and similar products. Modular design of the conveyor allows the combination of horizontal and vertical conveying within one machine.

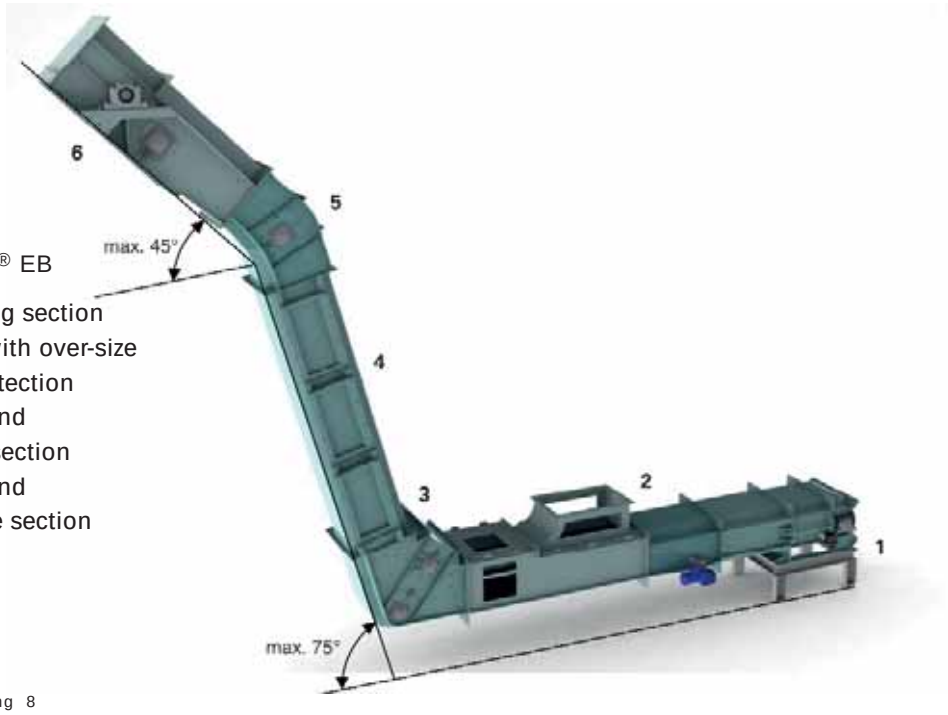
Key Benefits

- Easy and fast to integrate in existing plants
- Conveyed material is protected against weather
- Dust and spillage free conveying
- Handles materials which are difficult to handle by other conveyor types (e.g. fluffy, stringy)
- Low noise emissions and low maintenance requirements
- ATEX compliant designs available

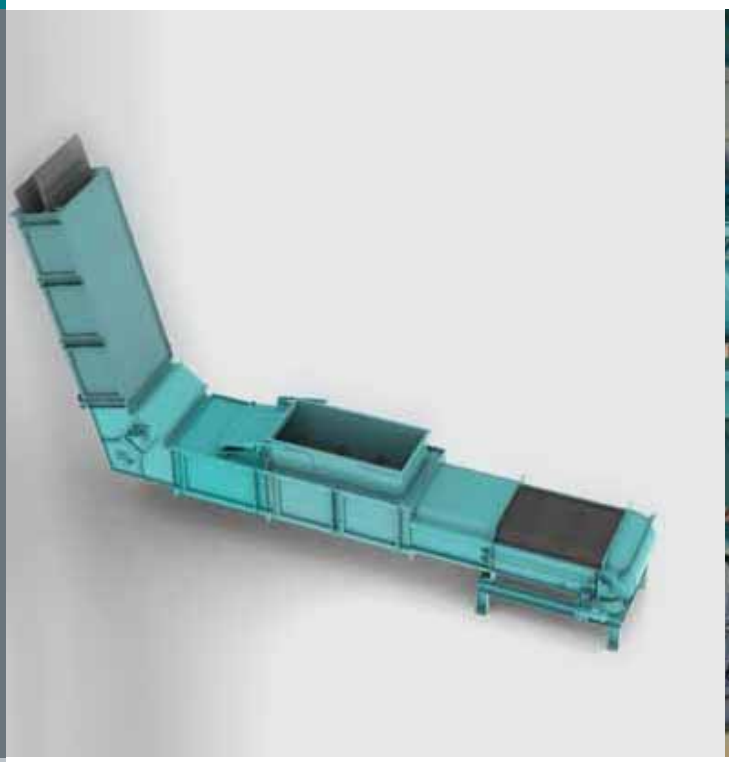


MoveMaster® EB

1. Tensioning section
2. Hopper with over-size lumps detection
3. Lower bend
4. Straight section
5. Upper bend
6. Discharge section



MoveMaster® EB Conveyors



MoveMaster® EB conveyors were developed by Schenck Process mainly for transporting household and industrial refuse and refuse derived fuels (RDF). MoveMaster® EB conveyors are thus suited mainly for the following industrial applications:

- Power
- Waste treatment
- Cement industry
- Chemical industry

Model Range

Belt width (mm)	800	1200
Capacity (m^3/h)	230	415

(Conveyance capacity of belt speed of 1 m/s and filling factor of 0.6)

Conveyed Product

- Typical product: RDF, sludge, biomass
- Bulk densitity: 0.01-0.05 t/m^3
- Maximum lump size: 100 mm (can be broken up)
- Flexible products max. 200 mm in one direction and typically 10x10mm in other directions
- Maximum temperature: 50°C
- Maximum humidity: 15 %
- Dusty, weather sensitive, hazardous, with specific lumpiness (e.g. stringy)

MoveMaster®
Corrugated Belt Conveyors

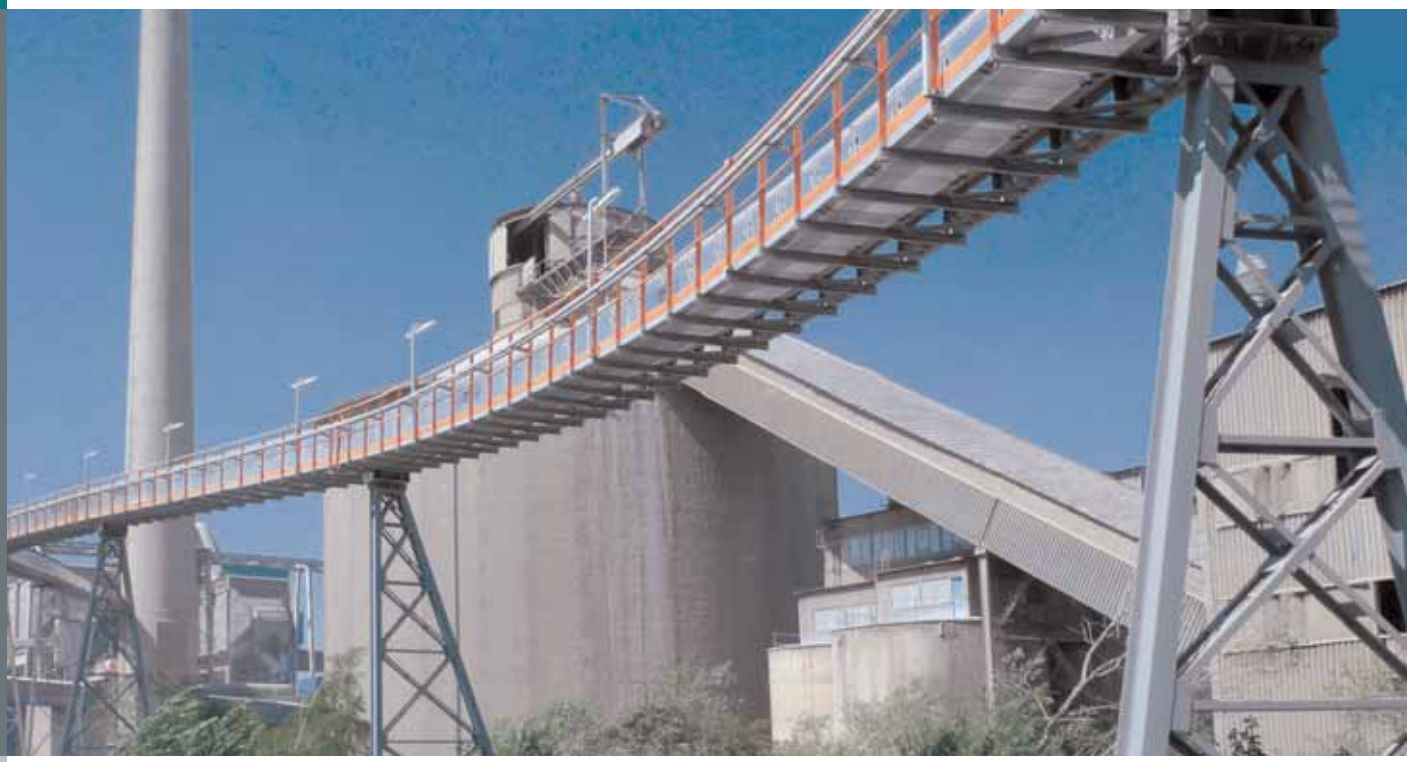
The Corrugated belt conveyors are designed for transport of bulk materials where a combination of transport in the horizontal, inclined and vertical direction is possible within one machine. Additionally the end station of the conveyor can have an angular displacement of the material up to 180°.

The transport belt of the corrugated belt conveyor is of special design with lateral ribs and corrugated side walls. The ribs and side walls together form pockets for transport of the material. The amount of material in each pocket is determined by the belt width, the height of the ribs and side walls, the incline of the conveyor track and by the properties for the transported material.

The Corrugated belt conveyor offers the following benefits to clients:

- Easy and fast to integrate into existing plants
- Suited for combinations of vertical and horizontal conveying
- Self-cleaning function and collection of spilled material inside of conveyor body
- Low power consumption
- Low noise emissions
- Low maintenance requirements
- Totally enclosed options available

MoveMaster® Tube Belt Conveyors



To provide alternative methods of mechanical conveying Schenck Process are able to supply Tube Belt conveyors which have a belt that forms an enclosed pipe whilst conveying. The Tube Belt conveyors are able to be installed with bends and curves which gives a greater flexibility of design compared to conventional belt conveyors. The Tube Belt conveyor forms a closed pipe over the entire conveying distance and the belt opens automatically before the material discharge point is reached.

This conveying solution offers the following benefits to the client:

- Easy to integrate into existing plants
- Suited for long distances and rough terrain as well as horizontal and vertical curves
- Conveyed material is protected against outside influences
- Environment is protected against potential dust and spillage of material

MoveMaster® Belt and Bucket and Chain and Bucket Elevators

Schenck Process range of Belt and Bucket and Chain and Bucket Elevators are ideally suited for the handling of heavy materials such as coal, raw meal, limestone and alternative fuels. The elevators are robust, economical and resistant to abrasion and can be designed to be dustless and able to handle materials up to temperatures of 350ºC.

The Belt and Bucket or Chain and Bucket Elevators can be configured in a single, double or triple row bucket arrangement to suit the required tonnage rates. Schenck Process' experience in the design and installation of elevator systems worldwide can help to specify the correct configuration and dimensions.

Chain and Bucket Elevators are recommended for heavy loads and large lumps of material and are adaptable for materials that tend to pack together. Chain and Bucket elevators are more suitable for very heavy duty service.

Belt and Bucket Elevators are recommended for lighter and free-flowing materials with a small amount of lumps. The Belts have a high degree of durability and can run at higher speeds.

Construction of the Belt and Bucket and Chain and Bucket Elevators incorporate the following features:

Casing - constructed from thickness of 2mm, 3mm or 5mm steel dependant upon the overall size of the elevator. Sections fitted with flanges for dust tight construction and ease of installation and alignment. Bolted access panels are fitted for bucket installation and maintenance purposes.

Chain - High strength hardened round link elevator chain with special shackles for bucket attachment.

Belt - Multiply low stretch elevator belting with polyester/polyamide woven carcase, Black Rubber covers and punched holes for bucket attachment. Oil resistant, fire resistant anti-static covers are available on request. Belt wander tracking sensors are available as an optional extra.

Buckets - Quality pressed steel buckets designed to give maximum throughput with the ideal fill and discharge characteristics

Drive - Shaft mounted direct or coupled drive fitted with a integral anti-runback gear and slow speed inspection drive when required. Type of drive depends on elevator size and is provided with IP55 weatherproof or ATEX motor units where necessary.

Explosion Relief - When required elevators are provided with a explosion relief panels with rupture indicator switches at intervals to comply with ATEX requirements.

Rotation Sensor - Rocon® Rotation Sensors are fitted as standard to all Bucket Elevators at the tail shaft to detect belt slip or non-rotation.

IntraBulk® Bulk Reception Unit

The IntraBulk® is an above ground bulk material reception solution providing a user friendly, cost effective alternative to conventional below ground intake pits. The consequent cost savings achieved from eliminating the need for expensive civil building works has seen the IntraBulk® selected across a diverse range of industries. The IntraBulk® is capable of receiving bulk materials from a range of bulk handling vehicles including road tipping trucks, front end loading units and walking floor trailers. The wide Apron-Belt design permits a very low loading height allowing the trucks to discharge direct to the entry section with only a small access ramp.

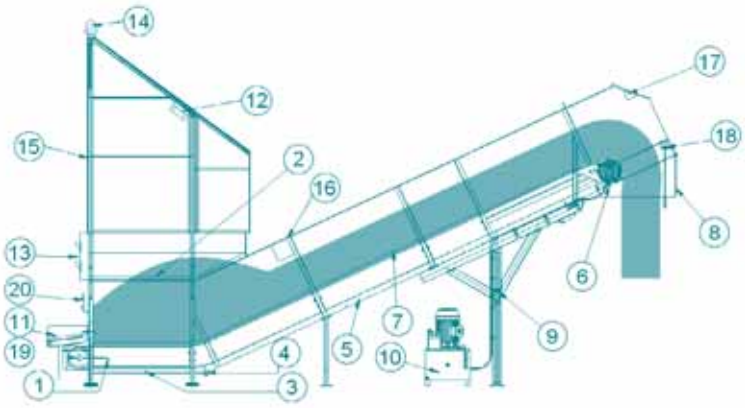
The IntraBulk® offers the following benefits to clients:

- Low power and operating costs
- Reduced pit / hopper depth (if required)
- Civil works reduced or virtually eliminated
- Compact installation
- Rapid reception of material
- Buffer storage capacity
- Conveys dry and wet materials
- Conveys dusty and sticky materials
- Bridging and blocking eliminated
- Regulated discharge to process
- Rapid discharge to process
- Low power and operating costs
- Low dust emissions
- Easy access for maintenance
- High speed unloading up to 500 m^3/hr

IntraBulk® Product Range

Standard Duty
Low/Medium Density materials

Heavy Duty
High Density Materials



The Features

1. Tension Unit
2. Intake Hopper
3. Horizontal Section
4. Bend Section
5. Inclined Section
6. Drive Unit
7. Conveying Chain & Belt
8. Outlet Chute
9. Inclined Section Support
10. Hydraulic / Mechanical Drive
11. Intake Ramp and Curtain
12. Ultrasonic Vehicle Detection
13. Traffic Lights
14. Warning Beacon
15. Enclosure
16. Plough Unit
17. Head Chute Level Detector
18. Head Chute High Level Switch
19. Rotation / Speed Monitor
20. Manual Stop / Start

Application Flexibility:

Angle of inclination, inlet and the belt length can be adjusted to achieve the required discharge height

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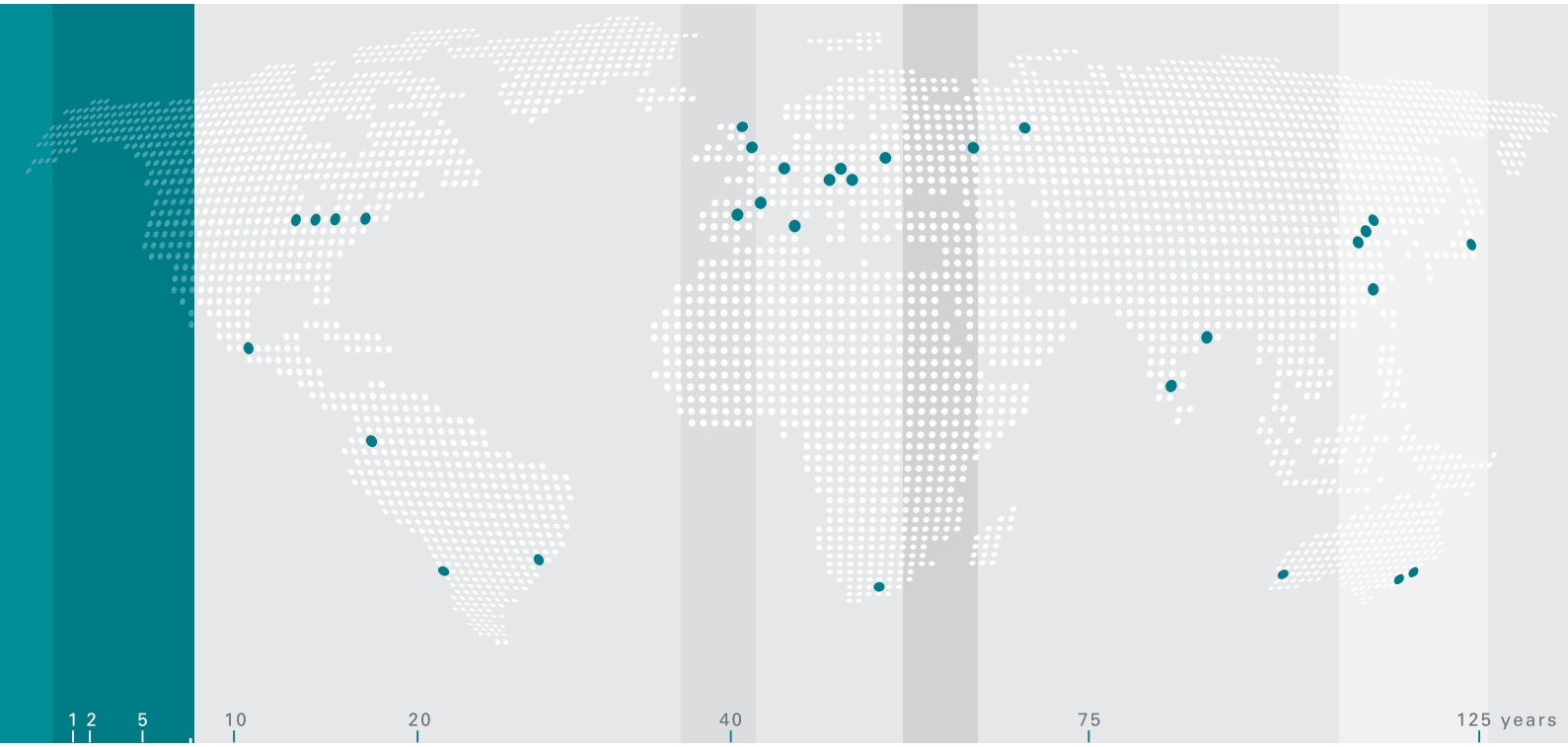

Schenck Process is the global market leader of solutions in measuring and process technologies in industrial weighing, feeding, measuring, conveying, filtration and automation.

Schenck Process develops, manufactures and markets a full range of solutions, products and turnkey systems on the basis of combining process engineering expertise, reliable components and field-proven technology.

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